



Kennecott Operations Plan

Environmental Assessment

March 2013



1.0 PURPOSE AND NEED FOR ACTION

The National Park Service (NPS) is considering alternatives for management of the Kennecott Mines National Historic Landmark (NHL) in Wrangell St. Elias National Park and Preserve. In this Environmental Assessment (EA), the NPS analyzes four management alternatives and their impacts on the environment. These alternatives are described fully in Chapter 2 of this document.

In total, NHL encompasses 14,231 acres of public and private lands (See Figure 1). However, proposed management in this document is focused on NPS-owned portions of the mill town and surrounding area. Nevertheless, some components of management (such as access/transportation) affect the entire Kennecott/McCarthy area. Many Kennecott structures (both historic and non-historic) and lots are in private ownership; this plan is intended to address only NPS owned properties. Figure 2 shows NPS and privately owned lots within the mill town. Participation and inclusion of proposed actions by private property owners will be at the sole discretion of those owners.

1.1 PURPOSE OF ACTION

This document is a revision of the 2001 Interim Operations Plan for the NHL, which was written to develop management strategies for the NPS when the National Park Service acquired the privately owned Kennecott Mines National Historic Landmark in June 1998. The purpose of the Kennecott Operations Plan is twofold:

- Provide long term guidance and protocols for an NPS/community partnership.
- Provide long term goals, guidance and management strategy for NPS-owned portions of the Kennecott Mines National Historic Landmark. This includes historic structure preservation and stabilization, interpretation, NPS utilities and infrastructure, access/transportation, and vegetation management.

Background: The 1998 acquisition was initially facilitated by the locally-based non-profit organization Friends of Kennicott, formed in 1988 by a diverse partnership representing local landowners, tourism, mining, conservation and historical preservation interests to conduct emergency stabilization of key structures such as the Mill Building. Friends of Kennicott actively worked with the local community and NPS to realize a shared vision for the future. Realizing the benefits public ownership would bring, Friends of Kennicott, the Conservation Fund, Kennecott Copper Corporation, and others began to lobby Congress for NPS acquisition of the Landmark. These efforts succeeded in 1998 with a federal appropriation specifically supporting a community based partnership concept for management. Much of the spirit and intent of the partnership management strategy was written into the 2001 Interim Operations Plan.

The Kennecott site, mined for its copper in the early 1900s, is approximately 5 miles from where the McCarthy Road ends at the Kennicott River, and lies in the heart of Wrangell-St. Elias National Park and Preserve (WRST); the largest National Park unit in the system, covering 13.2 million acres. Kennecott lies in a wilderness containing some of North America's biggest and most rugged mountains and glaciers. WRST was established under the Alaska National Interest Lands Conservation Act of 1980, and is just one of multiple overlaying management agencies and designations affecting Kennecott. National to global designations include National Park, National Historic Landmark, and World Heritage Site.

In 1998 NPS acquired 2,839 acres, including much of the historic mill town, the subsurface rights to the mine, and the natural area surrounding a contemporary local community. With the acquisition, NPS assumed new responsibility for protecting the important elements of the historical, cultural and natural landscape. In addition to being a historic site of national significance, the NHL also includes natural areas easily accessible to visitors and is a gateway to the park's backcountry. Its cultural landscape

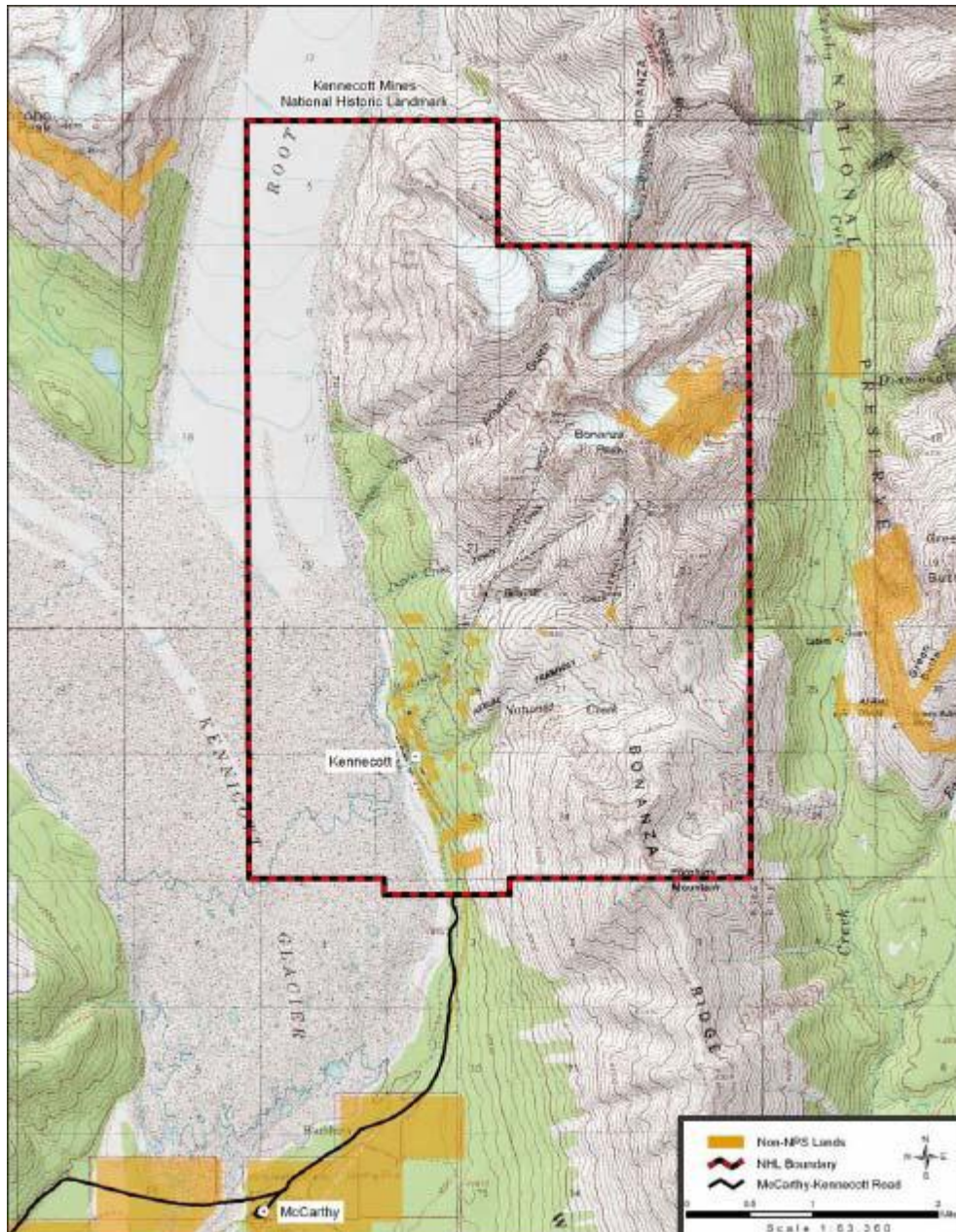
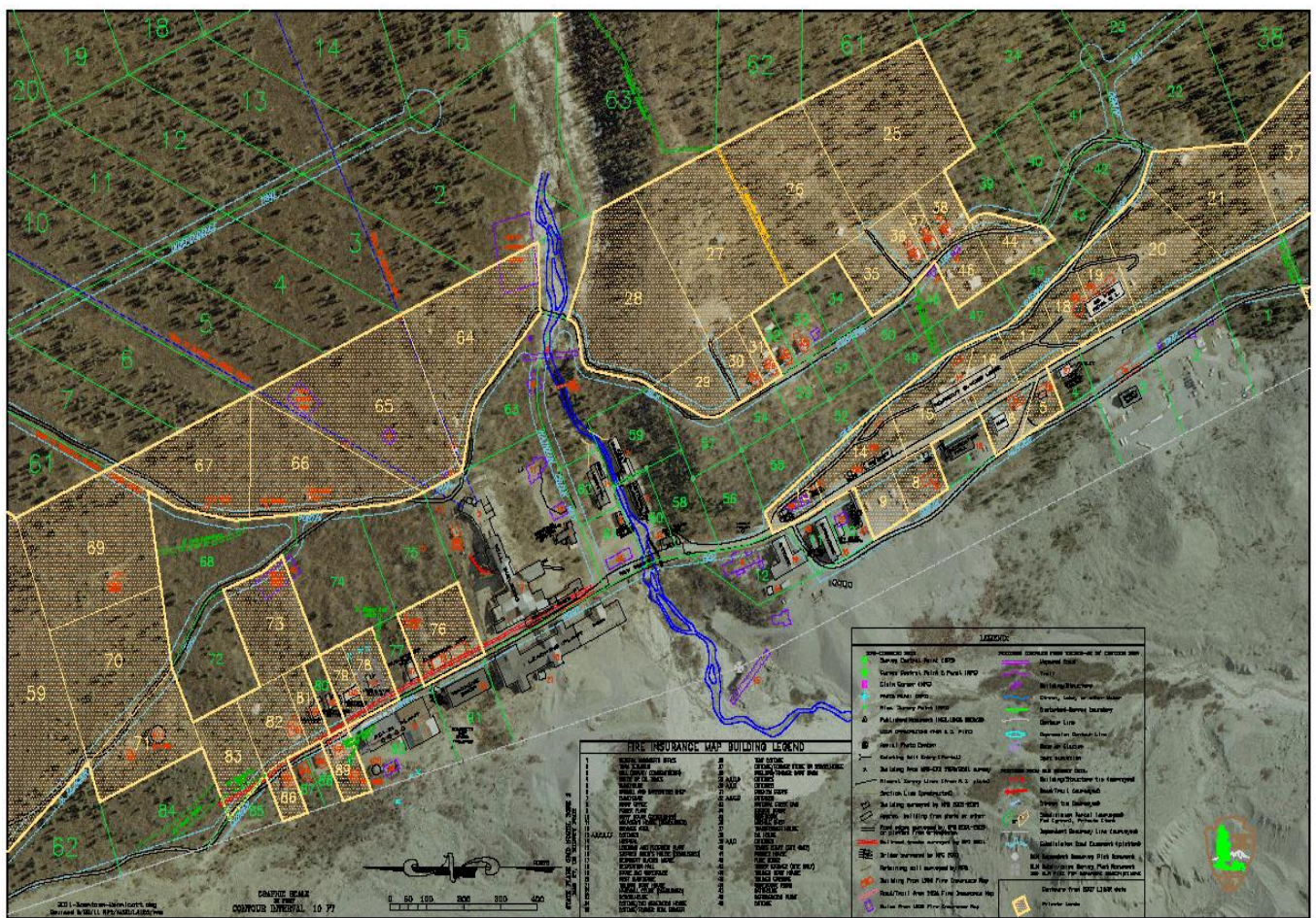


Figure 1: Kennecott Mines National Historic Landmark boundary



reflects a mixture of historic mining era buildings and artifacts intermixed with the ongoing life of an Alaska community, members of which own land and businesses intermingled with NPS holdings at Kennecott and in the nearby area of the town of McCarthy. Additional management layers within the NHL include subdivision easements, covenants, and architectural control bodies. The National Park Service is one owner among many. Currently Kennecott Mines NHL is the most popular visitor destination in WRST.

1.2 NEED FOR ACTION

The 2001 Interim Operations Plan was intended to provide guidance for management of the NHL for a five-year period. The Interim Operations Plan needs to be revised for the following reasons:

- The 2001 Interim Operations Plan is out-of-date and new direction is needed to address contemporary issues.
- There are major projects on the horizon, including stabilization of the 14-story concentration mill, stabilization of the leaching plant, and construction/installation of a potable water/fire suppression system.
- Much has been accomplished in the NHL since 2001. A revision is a good opportunity to document the stabilization, preservation, and adaptive re-use of historic structures that has occurred.
- There has been discussion and concern within the Kennecott/McCarthy community regarding work that has been performed relative to the community vision that was presented in the Interim Operations Plan.
- The NPS has acquired additional private parcels within the NHL since 2001.
- The Interim Operations Plan called for development of a communication process and procedure for joint NPS/community review of proposed projects. This needs to be described and implemented.
- New issues have developed in light of changes in access to the NHL that have occurred since the Interim Operations Plan. There is a growing component of Off Road Vehicle use and easier access to the site with privately owned full-sized motor vehicles.

1.3 MANAGEMENT GOALS AND MANAGEMENT CONCEPTS

The following goals and management concepts were developed in cooperation and consultation with the community of McCarthy/Kennecott. They are statements of purpose and condition for management of the NHL. The preferred alternative should be the alternative that best meets the goals.

1.3.1 Goals

General Goal: The general goal for management of NPS lands in and around the NHL is to conserve the scenery, natural and historic objects, and wildlife habitat and to provide for the enjoyment of the same by such means as will leave them unimpaired for the enjoyment of the future generations. The focus for management of the Kennecott Mines National Historic Landmark is to stabilize, preserve, and interpret the key patterns, relationships, and remaining structures and features that define the historic, cultural and natural character of the NHL. In some cases, individual features may have such a high degree of historical significance that rehabilitation or restoration is warranted. NPS will strive to meet this general goal while recognizing and working in partnership with the embedded Kennecott community.

Partnerships: The NPS recognizes that a viable and diverse community of individuals and families existed in the area prior to the creation of the NHL, indeed prior to the entire region being designated a

national park. NPS will work in partnership with this local community to manage the NHL in such a way as to maintain the character of the local communities of Kennecott and McCarthy. NPS and the Kennecott/McCarthy community define the partnership as an active cooperation trying to achieve mutual goals and objectives. The partnership is mutually beneficial.

Communications: In recognition of the irreplaceable value of local knowledge to the development and implementation of NPS policy, and acknowledging that local residents, non-profit organizations, and businesses provide visitor services and contribute to the rich hospitality experienced by park visitors, NPS will establish frequent, on-going communication with the local Kennecott/McCarthy community. The communications protocol is described in Chapter 2, under Actions Common to All Alternatives.

Cultural Resources

Structures: The goal of the NPS Kennecott preservation program is to apply measures necessary to sustain the existing form, integrity and materials of key historic buildings within the Kennecott NHL by repairing and replacing deteriorated roofs, walls and foundations and, in some cases, by replacing and maintaining windows, siding and paint to ensure preservation of historic structures for generations to come. Some historic structures have been specifically identified for adaptive re-use. These will be generally managed at a higher standard consistent with the “Rehabilitation” definition provided in the *The Secretary of Interior’s Standards for Treatment of Historic Properties*. Other historic buildings may be preserved or managed as ruins. Hazardous substance mitigation (lead paint abatement) will be done concurrently with stabilization and rehabilitation of historic structures.



Photo 1: Power Plant

Archeological Features: Preserve archeological resources contributing to the character and interpretation of the NHL. If removal is required to facilitate building stabilization, archeological objects or features will be returned to their original location upon completion of the project. Wrangell-St. Elias National Park and Preserve (WRST) will implement a regularly scheduled inventory of these archeological resources to ensure their retention and assess their vulnerability and stability. Resources determined to be intrusive or non-contributing to the historic district may be removed if they present a safety hazard.

Small-Scale Features: To preserve the character of the landscape and to enhance the interpretive environment, consideration may be given to preserving and/or reconstructing small-scale structures and features. These features include functional and ornamental elements (such as benches), utilities (light standards, utilidors, and water systems) and mining features (such as equipment). Reestablishment or reconstruction of small-scale features must be based on historical documentation. Preference for restoration will be to those features (such as hose houses or utilidors) that may serve some modern use.

Circulation Systems: The majority of existing roads and trails throughout the mill town reflect historic patterns, and these will be maintained whenever possible. Pathways and boardwalks may be reintroduced within the mill town. The addition of new roads within the mill town will be discouraged.

Natural Resources

Vegetation: Existing vegetation throughout the mill town is largely the result of growth since the historic period (1900 – 1938). Limited, selective thinning of vegetation would occur on NPS properties to reestablish historic views and view sheds and to protect the site from the effects of fire and damage to the buildings. The NHL provides habitat for unique and rare plant species that NPS will continue to monitor.

Invasive vegetation which is considered a threat to other resources will be controlled and removed whenever feasible. Revegetation of disturbed areas resulting from NPS activities will utilize native seeds/cuttings from local population sources. In some cases re-vegetation with historically accurate, but non-native and non-invasive plants may be considered as part of maintaining the cultural landscape.

Wildlife: The NHL provides habitat for numerous wildlife species. In particular the Kennicott Valley provides important black and brown bear habitat in the form of soapberry patches which has potential for conflict with visitors and residents. NPS will protect wildlife habitat and work to prevent negative wildlife/human interactions, while recognizing that wildlife is a resource for local subsistence use.



Photo 2: Black bear

Water Resources: Local streams provide water for the community as well as for NPS operations. On NPS lands, NPS will manage the quality of surface waters consistent with the Clean Water Act. NPS will continue to monitor water quality and will consult with the community in developing any necessary mitigation measures in regards to proposed activities.

Natural Soundscape: NPS recognizes that natural quiet is a component of the NHL, the surrounding landscape, and the communities within it. It is also critical to the quality of life of local residents and quality of experience for visitors. NPS will consider impacts of proposed activities on the natural soundscape and will work with the community in developing mitigation measures in order to reduce impacts.

Subsistence: Federally qualified subsistence use is allowed within WRST in accordance with Titles II and VIII of ANILCA. Local residents depend upon the resources from the park for personal consumption, cultural identity, and to maintain a subsistence way of life.

Interpretation

NPS conducted a three day exhibits workshop in Kennecott in early June of 2011 with 13 NPS and regional staff and 17 local businesses, residents, park partners and other community members. Discussions produced valuable ideas for an interpretive approach that will form the foundation for specific interpretive projects spanning the next decade.

Interpretation at Kennecott will enable visitors to learn about the mines and the mill town, the historic relationship of Kennecott and McCarthy, natural resources and the surrounding wilderness, and the contemporary community through a variety of media, interpretive techniques, and programs. Interpretive programs will emphasize the opportunity for self-guided tours and a sense of exploration, utilizing unobtrusive interpretive displays. Where advantageous to the program, the NPS would enter agreements with qualified providers to conduct guided tours and with partners to facilitate fundraising and cooperative projects.

Photo 3: Public meeting



Access/Transportation

As a partner in the community, NPS supports and will manage for long-term pedestrian visitor access to the mill town, utilizing local shuttle systems. NPS will continue to support landowner use of subdivision easements and access to subsistence resources.

Administration and Operations

NPS Utilities and Infrastructure: The goal is to support historic preservation treatments and maintenance, visitor use, and park management in a manner least obtrusive to the historical character of the NHL. Where possible, systems will be designed consistent with historical utility systems and circulation patterns. Serious consideration will be given to use of alternative energy sources, provided they can be employed with minimal impact on the environment, the local community, and the historic landscape.

Hazardous Materials: As part of the acquisition of the Kennecott properties by the National Park Service, a number of stipulations pertaining to hazardous wastes and lead paint were established. The NPS has entered into agreements with the Alaska Department of Environmental Compliance and the U.S. Environmental Protection Agency. Under those agreements, the NPS affirmed its obligation pertaining to the abatement of lead paint hazards in accordance to state and OSHA regulations pertaining to worker safety and training. Hazardous substance mitigation is part of all general management actions and will be consistent with the 1999 Kennecott NHL Mitigation of Hazardous Material Issues Work Plan and with the park's 2003 Hazardous Materials and Waste Management Management Plan for Kennecott NHL.

Visitor and Resource Protection: NPS will manage the NHL to protect the cultural and natural resources of the historic mining district and the surrounding glacial landscape; and provide a safe, educational, and rewarding experience for the area's visitors and residents.

1.3.2 Management Concepts

The 2001 Interim Operations Plan for the Kennecott National Historic Landmark included a section titled **Management Concepts**. This section described elements of a shared community vision for management of the NHL. The Management Concepts were derived from two primary sources: 1) the set of documents that were produced at the time the NHL was established (including, but not limited to, the 1997 Park Service report "Kennecott Acquisition Past, Present and Future", which supported federal ownership of the NHL; and 2) the Alaska National Interest Lands Conservation Act (ANILCA) of 1980. These Management Concepts emerged from more than a decade of public discussion preceding the acquisition of the NHL and were put into writing by a local non-profit (Friends of Kennicott) and endorsed by the community in general at the time of acquisition.

In all management activities, the McCarthy/Kennecott community seeks to assure a future in which Kennecott:

- Is stabilized to prevent deterioration of historic structures or artifacts and to make them available to the public, to the greatest extent possible in accordance with public safety
- Is managed with a "light touch" in which projects are undertaken in small steps, at modest costs, with minimal intervention process.
- Is not just an abandoned mining town, but also a place that reflects the vitality, creativity, and community spirit of today's residents.
- Retains the slow pace, quiet, and spaciousness that foster contemplation and individual reflection. In particular, NPS will encourage visitors to enjoy the NHL as pedestrians, and will seek to

minimize the impact of management activities (including, but not limited to, noise and visual impact) on both visitors and local residents alike.

- Is part of a larger community in which residents act both individually and collectively to guide the future of the area.
- Contributes to a strong, reasonably diverse economy that includes locally owned and operated businesses, community-based nonprofits, and traditions of barter and subsistence.
- Protects and honors small-town values: safety, cooperation, self-sufficiency, and personal freedoms consistent with state and Federal laws.
- Is a place where tourism is allowed to evolve within the capacity of the community, rather than a place where external intervention and control accelerate growth.
- Is seen by local residents and visitors alike in its true context: a remote outpost of civilization in the midst of an enormous mountain wilderness.
- Is managed to protect the cultural and natural resources of this historic mining district and the surrounding glacial landscape; and provides a safe, educational, and rewarding experience for the area's visitors and residents.

The NPS supports the management concepts that the community and Friends of Kennicott have articulated above, with the exception of application of the second bullet statement to preservation of historic structures in Kennecott. The terms “small steps”, “modest cost”, and “minimal intervention” were discussed at a June, 2012 workshop in Kennecott. Workshop group members clarified that these terms are not focused solely on structural stabilization, but rather a broader landscape picture and, importantly, the long term NPS presence.

Relative to the other concepts presented above, NPS is legally mandated to operate under the Laws, Regulations, and Policies presented in Section 1.4 of this EA. If a proposal is necessary to meet the Laws, Regulations, and Policies but conflicts with the concepts presented above, NPS must defer to its laws, regulations and policies. If this is necessary, NPS will consult with the community utilizing the communication protocol described in Chapter 2 under Actions Common to All Alternatives.

1.4 RELATIONSHIP OF PROJECT TO OTHER DOCUMENTS, PROVISIONS, AND PLANNING

Management of the Kennecott Mines National Historic Landmark has resulted in numerous planning documents. Early planning has produced a foundation upon which subsequent plans have built. The following is a chronological listing of planning documents that relate to or have influenced the current planning effort.

KEEPING SPECIAL PLACES SPECIAL: McCarthy, Kennicott and WRST: A Great Challenge, A Unique Opportunity (Joseph Sax, 1990). In 1990, Friends of Kennicott was officially chartered as an independent organization to work on emergency stabilization and facilitate NPS acquisition. Their first mission statement: *“to preserve, restore and render available to the public the historic mine buildings located at Kennicott.”* Lobbying began in Congress and the Alaska Legislature for funding. The Wrangell Mountains Center and McCarthy-Kennicott Historical Museum—with funding from the National Trust for Historic Preservation, Alaska Division of Tourism and the Alaska Conservation Foundation—hired Joseph Sax to produce the first recommendations for Kennicott. Sax recommended a five-point program, with the following elements:

- Stabilize threatened historic buildings, doing the “minimum necessary work to protect structures and repair hazards to visitors.”

- Acquire in fee land Company's unsold mountainside land and subsurface interest above Kennecott. On a voluntary basis seek compatible use of individually owned tracts. Link acquisition to stabilization and preservation of, and option to acquire, historic buildings.
- Clean up hazardous wastes in Kennicott buildings.
- Put private land in McCarthy-Kennecott under protective covenants.
- Manage McCarthy Road and environs as scenic, low-speed corridor.

Kennicott Alaska, A Partnership Proposal (NPS/DOI proposal to Congress, May 1991).

This proposal for NPS acquisition of the site was developed as a partnership including 1) owners of the surface and mineral estate; 2) Alaska's State Historic Preservation Officer; and 3) the Friends of Kennicott. Primary elements of the proposal included:

- Clean-up of hazardous substances to bureau specifications by owners.
- Acquisition of surface and subsurface by the NPS.
- Basic stabilization of historic structures by the NPS and others.
- Cooperative comprehensive planning for Kennicott and access corridor.

A Proposal for Ownership and Management of the Kennicott Property, *Protecting the Cultural and Natural Heritage of Alaska's Wrangell St. Elias National Park* (Friends of Kennicott, 1994). This document featured a cost-effective, local-federal partnership.

Kennecott Acquisition—Past, Present, and Future (WRST staff in cooperation with Friends of Kennicott, 1997). This document described the Kennecott history, current issues, and visions for future management of the site. Under the topic "Management Plans for Kennecott", the following is described: "What is to be maintained is the sense of...a site abandoned but still haunted by past residents, a place that has not been sanitized. It is a place of discovery for the visitor, but one where investigation and inquiry can be done safely and with respect for the remaining historic objects and structures." With regard to historic structures, this document goes on to state "The Kennecott historic structures were excessively overbuilt with large timbers and complex framing. With proper care to the foundations and the "skin" to prevent interior weathering, they will stand for a very long time."

Partnership Management Strategy (Mike Loso with funding from NPS and SHPO, 1998).

Created with extensive stakeholder input, this report contained the first articulation of the "Management Concept", which was recognized in the NPS 2000 Kennecott Interim Operations Plan. This report also emphasized and articulated the benefits of partnerships.

Kennecott National Historic Landmark Mitigation of Hazardous Material Issues Work Plan (NPS and Alaska Department of Environmental Conservation, 1999): This agreement, signed in 1999 by the NPS and Alaska Department of Environmental Conservation (ADEC), requires NPS to mitigate hazardous materials issues and identifies methods and strategies to do so. It specifically identifies 144,000 square feet of building surfaces covered with lead-based paint. The recommended management option is that the potential exposure to lead-based paint be mitigated as part of the stabilization/maintenance of the site, through a combination of removal and disposal of the lead-based paint, encapsulation of the lead-based paint or repainting with non-lead paint, or capping impacted surrounding soils.

Cultural Landscape Report (CLR) and Interim Operations Plan (NPS, 2001). The Cultural Landscape Report (CLR) outlined the treatment, management philosophy, management zones, and treatment recommendations that would guide NPS management and preservation of the Kennecott NHL. This document also includes a detailed chronological site history accompanied by maps showing the

evolution of the mill town over the past century, from its mining and milling heyday, through its abandonment, to its current “rebirth” as a national historic landmark and tourist attraction.

The Interim Operations Plan, which is Appendix A of the CLR, provided for both short-term and long-term NPS actions focused on compatible design, incremental change, and the reestablishment of the historic character of the site. Under this plan, NPS would begin to rehabilitate the company store for a visitor contact station, offices, and storage. Interpretive programs would be offered by NPS, concessioners, and other cooperators. Exhibits would be developed in coordination with the McCarthy Museum. Structures would be stabilized on a priority basis. A number of buildings would be opened for visitors to tour independently. Historical pathways would be reestablished and some vegetation clearing would take place. NPS would work cooperatively with the community to address the rehabilitation of the community building and fire and EMS response.

The Interim Operations Plan identified the primary NPS management goal as enhancing visitor understanding of Kennecott by preserving, protecting and interpreting key remaining structures and landscape features, patterns and relationships that define the historic, cultural and natural character of the NHL. Within the NHL, it designated six land use zones:

1. *Administrative Core*, including the office, manager’s residence, depot, hospital, and staff housing. Appropriate uses for Zone 1 are NPS operations, offices, interpretation, and a visitor center.
2. *Industrial Core*, including the concentration mill, tram deck, power plant, leaching and flotation plant, machine shop, tailings, flume structures, and warehouses. Appropriate uses of Zone 2 are interpretation, storage, equipment repair, workshop, and utility infrastructure.
3. *Residential A*, including Silk Stocking Row, old lodge, barracks, and local access roads. Appropriate uses are interpretation, residential, lodging, and tent cabins.
4. *Residential B*, including north end cottages. Appropriate uses are private residences and interpretation.
5. *Residential C*, including vegetated and cleared hillsides and historic dumps. Appropriate uses are residential, undeveloped, and natural resource protection.
6. *Commercial*, including the store, post office, storage, resident services, meat house, community facilities, housing and tent cabins. Appropriate uses are concession/commercial (outfitters, bike rentals, guided tours, guest services, gift shop, bookstore), offices and community center.

McCarthy Road/Chitina Valley Roundtable Project Phase III Report (2002). The three phase Roundtable Project was begun in 1999 by the Copper River/Wrangell’s Tourism Work Group of the Alaska Land Managers Forum in response to the Alaska Department of Transportation and Public Facilities (ADOT&PF) proposal to upgrade the McCarthy Road between Chitina and McCarthy. The Roundtable Project forecasted potential for growth and traffic volumes along the road, documented land use and development issues, and crafted specific options and management tools for addressing change and growth in the community. The project included substantial public input and participation by residents from Chitina, McCarthy, and along the road. The McCarthy Road Coordinating Group, brought together through this project, included stakeholders such as Ahtna Inc., Chitina Native Corporation, Chitina Traditional Village Council, ADOT&PF, NPS, University of Alaska and the Alaska Department of Natural Resources (DNR). For the Kennicott River Segment (MP 55-60), the Phase III Report identified the following issues:

1. Uncoordinated development makes arrival at the end of the road confusing and not entirely welcoming to visitors.
2. Appropriate recognition of this area as the “reception” area to the park and the community of McCarthy/Kennecott.
3. Opportunities for private development.

4. Need to coordinate pedestrian, bicycle, automobile, and off-road vehicle circulation for safety and to improve visitors' experience along this busy stretch.
5. Vehicular access across the Kennicott River.
6. Provision of public infrastructure/utilities.

Six desired future conditions were listed:

1. No "Glitter Gulch", e.g., a desire for aesthetic development along the end of the road that enhances visitors' experience of WRST and the presentation of McCarthy as a community.
2. Coordination of public projects within the corridor.
3. Ability to meet parking needs while not detracting from the spectacular setting.
4. Appropriate roles between private and public sectors.
5. Development of appropriate "tourism/visitor" facilities.
6. Resolution of access issues.

Implementation Actions included the following:

1. Development of West Side Business Owners organization to coordinate development west of the Kennicott River.
2. Development of arrival sequence facilities as outlined in Roundtable meetings.
3. Cooperative Agreement for coordinated public/private provision of visitor facilities on west side.
4. Cooperation for development of "Gateway" prior to entering the community. Provision of public facilities and orientation at NPS McCarthy Road Information Station.

The expectation of the Roundtable was that its recommendations could be jointly implemented by stakeholders "without imposition of additional governmental influence."

McCarthy Walk-In Campground Environmental Assessment (NPS, 2002). NPS prepared this EA on the proposed McCarthy walk-in campground for primitive tent camping near the McCarthy airport, approximately one mile from McCarthy. The site would occupy 42 acres in a glacial fluvial outwash and access would be limited to non-motorized methods along a designated trail traversing federal land. Alternative 2 was the agency preferred alternative and included vault toilets, bear-resistant trash receptacles, water, and a centralized food preparation area. Alternative 2 incorporated a number of mitigation measures aimed at minimizing human-bear conflicts and other adverse effects.

In 2003, NPS signed a Finding of No Significant Impact (FONSI) to implement Alternative 2. There were 4 public comments received on the EA that were addressed by the FONSI. Concerns were expressed over potential impacts to local use of the area, disposal of garbage and human waste, access to the campground, and potential for bear-human interactions. The campground has not been constructed and is considered again in this document.

Environmental Assessment: Interim Park Operations Support Complex, Kennecott District (NPS, 2003). In this EA, WRST analyzed the potential environmental impacts of a proposed park operations support complex located at approximately mile 60 along the McCarthy Road, west of the Kennicott River. This field season support camp would be for NPS employees temporarily stationed for up to five months at the Kennecott Mines NHL and employees of NPS contractors. Proposed development within the 4-acre complex included portable housing structures, material staging and storage yard, and utilities including drinking water, septic, and telecommunications. In 2003, NPS signed a FONSI to implement Alternative 2, the proposed action. The site has been constructed and is currently in operation.

Kennecott Utilities Study, An Assessment of National Park Service Utility Needs at the Kennecott National Historic Landmark (NPS, 2003). This study assessed utility needs at the Kennecott NHL for the six months of the year it would be in operation (April 15th – October 15th) by investigating electrical power generation, utilidor configurations, heating, fire protection, potable water, and sewage disposal alternatives. Among the study's conclusions and recommendations were the following:

- Electrical power: A combination of hydroelectric power generation and diesel generation would accommodate the NHL's needs; having both hydroelectric and diesel generation available would provide redundancy to the system during times of low stream flow, during start-up and shutdown, and during maintenance on the hydroelectric facility.
- Utilidors: Currently, wooden plank utilidors house the steam supply, condensate steam, and water for the structures; the utilidors are in poor condition, with many beyond repair. In some cases wooden utilidors were suggested to preserve the historic system, while in other instances buried utilities were suggested for protection of the utilities and reduction of installation and maintenance costs.
- Heating: Buildings would not be heated year-round. Propane-fired forced air furnaces and boiler systems would be added to cottages 39C, 32C, 32D, future cottages acquired, temporary cabana housing and support building, Store, West Bunkhouse, New School, Old School, Recreation Hall, Depot, General Managers Office, and Dairy Barn to provide an adequate comfort level in spring, summer, and fall when Kennecott is staffed and open for park visitors.
- Fire Protection: The current water service is incapable of providing enough water for fire suppression, so another source is necessary. Bonanza Creek is recommended for this purpose; water supplied from this source could be used to supply water for the hydroelectric facility, fire suppression system, and potable water. The distribution system would consist of underground piping with installed hydrants, a sprinkler system at 12 structures, and a mini-pumper truck.
- Sanitary Sewer System: The five buildings (Old School, Recreation Hall, New School, Machine Shop, and West Bunkhouse combined with the Company Store) that need sewer service are the same selected for water service. While conventional septic systems are typically ideal for remote locations and minimal use facilities, at Kennecott the steep terrain and small lot sizes complicate this option. Therefore, other options like alternative toilets and package treatment plants may be preferable for certain buildings depending on use rates and site characteristics.
- Water: A water utility infrastructure at Kennecott does not exist at this time. Proposed management and development at Kennecott would establish the means to deliver potable water; water for hydroelectric power generation, and water for fire protection. The Kennecott Utilities Study and 2005 Value Analysis examined several concepts for water infrastructure for the area upslope of the Mill Building and along the historic rail corridor.

Kennecott Mines Support Facility Plan and Environmental Assessment (NPS, 2006). This EA considered proposals and impacts associated with housing for NPS employees, construction materials storage, power generation and distribution, sanitary sewer system, fire suppression system, water gathering and storage, potable water treatment and distribution, utilidors, transportation, McCarthy Visitor Information Station, and shuttle service. The EA considered two alternatives (the preferred alternative and the No Action alternative). Fifty parties provided comments during the EA public review period.

A Finding of No Significant Impact (FONSI) was signed in 2007, with a decision to implement Alternative 2, the Preferred Alternative. The Decision included some of the following elements:

Housing for NPS employees:

- NPS Housing assessment identifies the future need for up to 32 employees. Employees include those duty-stationed at the NHL, as well as transient and contract employees. The NPS will incrementally provide housing as positions and funding become available in the future.
- Maintain all existing, under-construction, and planned housing in the NHL, McCarthy, and the Operations Support Complex (west side).
- Encourage employee rentals of local privately-owned housing.

Power Generation and Distribution:

- A combination of hydroelectric power generation and propane power generation would accommodate power needs in West McCarthy and Kennecott. These systems would need further compliance and evaluation, which would include public participation before final decisions are made.
- NPS would consider emerging technologies such as hydrogen fuel cells as they become available.

Sanitary Sewer System: Collection, treatment and disposal of sewage (wastewater) in both NHL and the west side Operations Support Complex would be achieved primarily by septic systems (septic tanks and leach fields).

Water Gathering and Storage: Installation of water lines will entail further evaluation and compliance before implementation, public involvement would be a part of that process.

Transportation: This plan was written to reflect the standards outlined in the McCarthy scenic corridor plan.

Interpretive Concept Plan (NPS, 2011). In the summer of 2011, a workshop was held in McCarthy. The three-day workshop was designed to: 1) gather input on the types of interpretive techniques and exhibits that will best communicate park themes and facilitate identified audience experiences; 2) identify what and where Kennecott's stories will be told; and 3) Develop a media plan that identifies interpretive techniques for both the buildings and the Kennecott Mines NHL setting. Workshop attendees included 13 Alaska NPS regional specialists and WRST staff, seven WRST partner organizations, local and regional subject matter experts, and eight members of the local community, for a total of 28 participants. The Interpretive Concept Plan was developed based on the results of the workshop. Concepts from the Plan have been incorporated into the Proposed Action described in Chapter 2 of this EA.

1.5 APPLICABLE LAWS, REGULATIONS, AND POLICIES

Management of the NHL must be consistent with the laws, regulations, policies, and plans of the federal government. The legal and policy framework that governs management of the NHL is extensive; the following information summarizes the most important directives relevant to management of the NHL.

NPS Organic Act of 1916: By enacting the NPS Organic Act of 1916, Congress directed the U.S. Department of the Interior and NPS to manage units of the National Park System “to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (16 USC 1). The Redwood National Park Expansion Act of 1978 reiterates this mandate by stating that the NPS must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress” (16 USC 1 a-1).

The evaluation of whether impacts of the Preferred Alternative would lead to an impairment of park resources and values is included as Appendix A of this document. Impairment is more likely when there are potential impacts to a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- Identified as a goal in the park's GMP or other relevant NPS planning documents.

Section 201(a) of ANILCA states that the park will be managed for the following purposes, among others:

To maintain unimpaired the scenic beauty and quality of high mountain peaks, foothills, glacial systems, lakes and streams, valleys, and coastal landscapes in their natural state; to protect habitat for, and populations of, fish and wildlife including but not limited to caribou, brown/grizzly bears, Dall sheep, moose, wolves, trumpeter swans and other waterfowl, and marine mammals; and to provide continued opportunities, including reasonable access for mountain climbing, mountaineering, and other wilderness recreational activities. Subsistence uses by local residents shall be permitted in the park, where such uses are traditional in accordance with the provisions of title VIII.

Alaska National Interest Lands Conservation Act (ANILCA) of 1980: This is the act of the U.S. Congress that created the Wrangell-St. Elias National Park and Preserve in which the NHL is located. When acquired by the NPS in 1998, the NHL became a part of the WRST conservation system unit and thus subject to the provisions of ANILCA.

Kennecott Mines National Historic Landmark: Kennecott was listed on the National Register of Historic Places (NRHP) in 1978 and became a National Historic Landmark in 1986. Kennecott Mines National Historic Landmark is nationally significant under National Register Criterion A as physically representative of early copper mining in Alaska and under Criterion C for engineering as this is the world's first ammonia-leaching plant. The period of significance spans from the first claims in 1900 to the closure of the operation in 1938. If the need arises, the park has the ability to recognize and preserve structures and features outside of the period of significance.

National Historic Preservation Act of 1966 (NHPA) as amended: NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties and mitigate or minimize any adverse impacts. "Undertaking" is defined as a project, activity or program, funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; and those requiring a federal permit, license, or approval. Under the law, federal agencies must consult with the State Historic Preservation Officers (SHPOs) and the public regarding the effects of their projects. Consultation should be initiated early in the project planning process, before the project actually occurs. Often, an archeological survey will be conducted to identify and record sites. Sites which may be eligible for the National Register of Historic Places (NRHP) are defined as "historic properties". Adverse effects to historic properties must be avoided or mitigated. Because Kennecott is an NHL, it has the highest designation under the National Register of Historic Places. Because of that significance, any action that is determined as having an adverse effect is automatically subject to review not only by the SHPO, but also the Advisory Council on Historic Preservation (ACHP) and the Secretary of the Interior.

2008 Systemwide Programmatic Agreement: The 2008 Programmatic Agreement (PA) between the NPS and the National Conference of State Historic Preservation Officers (SHPOs) and the ACHP allows the NPS to streamline the compliance process from the standard NHPA process for certain activities such as maintenance and installation of signs provided that the projects meet certain criteria. The streamlined process is used on many NPS projects in the park and must be reported to the SHPO on an annual basis. A separate PA describes the management of Kennecott specifically.

Kennecott Programmatic Agreement: An original 1999 Programmatic Agreement between the SHPO and Wrangell-St. Elias National Park and Preserve (WRST) has been replaced by the 2010 PA. Under the current PA, WRST may perform a variety of undertakings without additional review by the SHPO or the ACHP provided that those undertakings do not produce adverse effects, are in keeping with the Secretary of Interior's applicable standards and guidelines, and are monitored by an archeologist. The undertakings which were allowable for streamlined review under the 1999 PA were created in consultation with SHPO, local tribal councils, the Friends of Kennecott and the McCarthy Area Council. The 2010 expands those slightly and reflects the 2008 NPS Systemwide PA.

National Environmental Policy Act (NEPA): Under NEPA, federal agencies must consider indirect effects and cumulative effects as well as direct effects. NEPA actions usually require some form of review or comment from the public or from specific interested parties.

The Secretary of the Interior's Standards and Guidelines on Historic Preservation: As part of the Department of the Interior, the NPS adheres to the Secretary's Standards. There are standards and guidelines for archeology and historic preservation, architectural and engineering documentation, professional qualifications, rehabilitation, treatment of historic properties, preserving, rehabilitating, restoring and reconstructing historic buildings, and for the treatment of cultural landscapes. These standards and guidelines influence topics from personnel decisions to treatment procedures for buildings at Kennecott.

The Secretary of the Interior's Standards for the Treatment of Historic Properties: The following classes of treatment are recognized.

- *Preservation* means the act or process of applying measures necessary to sustain the existing form, integrity and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive mechanical, electrical and plumbing systems and other code-required work to make properties functional are appropriate within a preservation project.
- *Rehabilitation* means the act or process of making possible the efficient compatible use for a property through repair, alterations and additions while preserving those portions or features that convey its historical, cultural or architectural values.
- *Restoration* means the act or process of accurately depicting the form, features and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.
- *Reconstruction* means the act or process of depicting, by means of new construction, the form, features and detailing of a non-surviving site, landscape, building, structure or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

NPS 28: Cultural Resource Management Guideline: Director's Order 28 instructs the NPS to protect and manage NPS-owned cultural resources in accordance with *NPS Management Policies 2006*, comply with the Secretary of Interior's Standards and Guidelines for Archeology and Historic Preservation, and follow the NPS Cultural Resource Management Handbook. Of particular relevance to management of historic structures at Kennecott are the following descriptions:

Ultimate Treatment (section 8:C.1.a): The ultimate treatment of a historic structure is a general definition of its development limits based on considerations of use and the historic character that should be presented to the public. It is accomplished through one or more construction projects, after which the structure is preserved by preservation maintenance. Subsequent rehabilitation or restoration may be

needed to update the structure's functional aspects and to repair or replace damaged or deteriorated features. Pending ultimate treatment, a structure is stabilized and protected in its existing condition; it may also receive interim treatment compatible with its planned appearance and use.

Removal or Neglect (section 8:C.1.c):

Demolishing a historic structure or deliberately allowing it to decay naturally is justifiable only when all alternatives have been determined infeasible in the planning process. *NPS Management Policies 2006* prohibits demolition unless necessary for public safety or to eliminate an unacceptable intrusion. No structure listed in or potentially eligible for the National Register will be removed or deliberately neglected without review by cultural resource specialists and approval by the regional director.

Executive Order 13006: Executive Order 13006 directs federal agencies to “utilize and maintain” historic properties and encourages them to locate federal facilities in historic properties particularly those within historic districts.

36 CFR-79: Curation of Federally Owned and Administered Archeological Collections outlines the standards and guidelines for the curation of cultural resource collections. These regulations include information on the facilities in which artifacts are stored and exhibited, how and to whom artifacts may be loaned, and how to keep records associated with each artifact.

Title 43 CFR 36.11(g)(2): This Alaska-specific regulation was promulgated in 1986. This regulation authorizes federal agencies to issue permits for the use of Off Road Vehicles (ORVs) on existing ORV trails, except in areas designated as wilderness, upon a finding that such ORV use would be compatible with the purpose and values for which the area was established. Permit conditions are required to protect resources. Under this regulation, recreational use of ORVs may be permitted on existing trails, in the park or preserve portions of Wrangell-St. Elias, with a finding of compatibility.

Title 36 CFR 13.46: Allows the use of surface transportation traditionally employed for subsistence uses. The 1986 Wrangell-St. Elias National Park and Preserve General Management Plan made the determination that ORVs were a traditional means of access to subsistence resources in the park.

Title 36 CFR Part 13: This section lists the regulations for the National Park System Units in Alaska. Subpart V lists the special regulations that apply to Wrangell St. Elias National Park and Preserve and section 13.1904 lists regulations specific to the Kennecott Mines National Historic Landmark.

1.6 SCOPING PROCESS

The scoping process for the Kennecott Operations Plan began on September 8, 2010 with a public meeting in Kennecott. The general planning process and timelines were explained and public concerns and comments were noted.

On December 13, 2010, a scoping letter went out to 210 people and organizations. It formally announced the scoping period for the Kennecott Operations Plan, explained the purpose of the Plan, and invited comments. The park also posted the letter on the NPS Planning, Environment, and Public Comment (PEPC) website for public review and comment. The park asked for comments by January 31, 2012 and received comments from the McCarthy Area Council (MAC), National Parks Conservation Association, State of Alaska, Friends of Kennicott, Alaska Quiet Rights Coalition, and several individuals. Additionally, a public meeting was held in Anchorage on February 23, 2011. The meeting included a presentation by the NPS Regional Historical Architect and an explanation of the planning process. Questions, comments, and concerns were noted.

In March of 2011, the park Interdisciplinary Team (IDT) met for three days to review public comment and develop a proposed action package for the Kennecott Mines National Historic Landmark. Proposals included historic structure stabilization/preservation, interpretation, NPS utilities and infrastructure, transportation/access, vegetation management, and management of small scale features and archeological resources. The IDT also discussed a protocol for communications with the McCarthy/Kennecott community. The resulting proposed action package was made available to the McCarthy/Kennecott community and posted on the PEPC website for public review and comment in May, 2011. NPS asked for comments by August 31, 2011.

To facilitate review of the proposed action package, the McCarthy Area Council assigned a sub-committee to thoroughly review and comment on the document. Additionally, NPS held three public meetings in Kennecott/McCarthy during the course of the summer to answer any questions regarding the proposed action package. The community requested and was granted an extension on the comment period to September 15, 2011.

NPS received 31 written comment letters on the Proposed Action for Management of Kennecott Mines National Historic Landmark. These included a MAC subcommittee re-write, which was signed or otherwise endorsed by 43 individuals. Friends of Kennicott also submitted a comment letter, generally supporting and supplementing the MAC subcommittee re-write. Comments were received from several other organizations or agencies, including Alaska Quiet Rights Coalition, the State of Alaska, and National Parks Conservation Association.

The IDT met again in October 2011 to review the public comments and modify the proposed action package, based on public comment. The modified version of that proposed action package is the basis for the proposed action identified in this Environmental Assessment.

1.7 ISSUES OF CONCERN RAISED DURING SCOPING

1.7.1 Issues and Topics Evaluated in the Kennecott Operations Plan/EA

Issues and impact topics identified during the scoping process form the basis for environmental analysis in this document. The issues of concern raised during scoping regarding topics to be addressed in this combined Plan/EA include the following:

Water Resources: Both water quality and water quantity/flow patterns are key issues. Protecting local drinking water sources is a priority of McCarthy's; at the same time, seasonal discharge patterns and flooding are important issues at National Creek within the NHL.

Vegetation: Currently, the vegetation within the mill site reflects the re-growth that commenced at the conclusion of mining operations. Elsewhere within the landmark boundary vegetation reflects conditions that existed before mining occurred. This plan proposes limited vegetation clearing for the purposes of visual enhancement as well as fire protection. Localized impacts on vegetation could result and will be considered within the analysis. The spread of invasive plants may be affected by actions proposed within the alternatives. The Federal Noxious Weed Control Act, Executive Order #13112, and NPS Director's Order 77-7 require that all actions be reviewed for possible contributions to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species and to implement mitigating measures.

Cultural Resources: The management of historic structures is an important concern: which ones would be left to deteriorate, which ones would be stabilized, which ones would be rehabilitated and

adaptively re-used. In addition to the National Environmental Policy Act (NEPA), the impacts on cultural resources are evaluated under the National Historic Preservation Act.



Photo 4: National Creek

Wildlife: Vegetation thinning could potentially reduce or affect wildlife habitat. Increased visitation could lead to increased interaction with wildlife in the area, leading either to population increases or declines, depending on how adaptable the species in question is to human presence. Management actions associated with human-bear conflicts could increase direct and indirect injury and mortality for both black and brown bears.

Visual Resources: Visual resources are an important aspect of the character of Kennecott and McCarthy, as well as Wrangell-St. Elias National Park and Preserve in general. Several of the actions proposed in this EA could generate localized impacts on visual quality as well as contribute to cumulative impacts on the same.

Visitor Use and Experience: The historic town of McCarthy is both a point of departure for wilderness explorers and “flightseers” as well as a destination with certain historic values. While Kennecott also serves as a gateway to the glacial high country, it is primarily a destination with significant historic values, as reflected by its NHL designation. The alternatives would have a direct or indirect bearing on the quality of the experience visitors to the area will receive. Cumulatively, the proposed action may facilitate increased visitor use and experience in the coming decades, with both adverse and beneficial impacts on visitor experience.

Transportation and Access: Managing visitor access and parking at the NHL are important components in balancing visitor experience with increased visitation. Limitations on access and parking, both physically and legally, constrain the amount of motorized access that could occur into the NHL.

Natural Soundscape: During its period of operation in the early 1900's, the Kennecott millsite was an industrial complex and a noisy place. Now, NPS recognizes that natural quiet is a component of the NHL, the surrounding landscape, and the communities within it. It is also critical to the quality of life of local residents and quality of experience for visitors. Components of the proposed action, such as historic building stabilization, have and will continue to generate noise. The impacts of the noise are considered in this EA.

Socioeconomic Environment: The Kennecott Operations Plan will affect visitation to the McCarthy-Kennecott area. It will also influence future partnerships and/or concessions opportunities. These decisions will impact socioeconomics in the surrounding community.

1.7.2 Issues Dismissed from Detailed Analysis

NEPA regulations emphasize the importance of adjusting the scope of each EA to the particular interaction of the project and its setting, and focusing on the specific potential impacts of that project. There is no need, according to the regulations, to include information on resources that would not be affected by the project. As a result, different EAs will discuss somewhat different lists of resources. Brief rationales dismissing certain issues from further analysis are provided below:

Air Quality: None of the proposed actions is likely to generate more than short-term and negligible fugitive dust and/or tailpipe emissions.

NPS/Community Communication: Improvement of NPS/community communications was a common theme throughout the comments received during scoping and in comments on the proposed action package. The Final Kennecott Operations Plan will contain a section describing a protocol for NPS/community communications. This protocol was developed through public review and comment. There are no alternatives developed around this protocol and no environmental effects associated with it, so it will not be further discussed in this document.

Climate Change: Secretarial Order 3226 directs federal agencies to ensure that climate change impacts are considered in connection with departmental planning and decision making. The *2006 NPS Management Policies* direct the operation and management of facilities, vehicles, and equipment in a manner to minimize the consumption of energy, water, and nonrenewable fuels. Wrangell-St. Elias is projected to become warmer and drier over the next century with winter temperatures becoming significantly warmer (SNAP 2009). Although precipitation is predicted to increase, the amount will likely be insufficient to offset an increase in evapotranspiration caused by warmer temperatures and a longer growing season. A longer growing season will mean shorter periods of frozen ground and changes in the timing of peak melt and river water levels. Seasonal changes will lead to drying of wetlands, streams, and lakes that are not glacially fed. However, it may lead initially to higher water levels in glacially fed waters. It is anticipated that both the Root and Kennicott Glaciers will continue to decline and that vegetation will recolonize the areas vacated by the glaciers. While this may affect the character of the NHL the proposed actions will not further impact or be a direct response to climate change.

Wilderness: The proposed actions would not take place within the Wrangell-St. Elias Wilderness.

Wetlands: Executive Order #11990 and NPS Director's Order #77-1 require the protection of wetlands, but none of the proposed sub-actions would be located on wetlands or affect them indirectly.

Threatened and Endangered species of flora and fauna: Grizzly (brown) bears, Peregrine falcons, and grey wolves all frequent the area. While each of these has been listed by the U.S. Fish and Wildlife Service at one time and place or another, none is currently listed in Alaska. No other listed species are known to be present. There are some plant populations that occur within the NHL which are considered by the Alaska Natural Heritage Foundation to be rare either within the state or globally. These populations are not within the core mill town and are not threatened.

Fisheries: Although NPS monitoring has found fish in the Nizina River, Clear Creek, and McCarthy Creek, none of the actions have the potential for generating significant short-term or long-term impacts on fish habitat or populations.

Environmental Justice: Executive Order #12898 requires federal agencies to examine their policies and projects for disproportionate impacts on low-income and minority populations. The percentages of minority and low-income residents in the project area do not appear to vary notably from average levels in the state.

Subsistence: Section 810(a) of ANILCA requires the proposed action to be evaluated for potential impacts on subsistence resources and activities, that is, habitat losses and fish and wildlife populations, access by hunters and fishers, and competition among hunters and fishers for subsistence resources. This issue was dismissed from analysis because the proposed action, at most, would have negligible impacts on subsistence. The ANILCA section 810(a) summary evaluation and analysis is provided in Appendix B.

1.8 PERMITS AND APPROVALS NEEDED TO IMPLEMENT PROJECT

Storm Water Permits: The Alaska Department of Environmental Conservation (DEC) sets water quality standards for Alaska waters and regulates discharges into these waters (18 Alaska Administrative Code (AAC) 70). All discharges of storm water from construction projects disturbing five acres or more require a National Pollutant Discharge Elimination System (NPDES), Storm Water General Permit for Large and Small Construction Activities from the EPA and must be reviewed by DEC to obtain Section 401 Certification under the CWA. A Notice of Intent (NOI) form must be submitted to EPA prior to the start of construction activities. The NOI form requests general information about the operator in charge of day-to-day operations of the construction site, location of the site, name of receiving waters, estimated start date of the project, and other information.

A Storm Water Pollution Prevention Plan (SWPPP) must be prepared prior to submission of an NOI and must:

1. Identify all potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges from the construction site;
2. Describe the practices to be used to reduce pollutants in storm water discharges from the construction site; and
3. Assure compliance with the terms and conditions of the permit.

Wetlands Permit: While impacts to wetlands are not anticipated, Waters of the United States could be impacted by work in Bonanza or National Creeks. Any construction projects involving permanent alterations to these creeks would require a General Permit (GP) from the Anchorage District of the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA). If the area of impact is less than half an acre, the project(s) might qualify for a nationwide permit; otherwise, individual permits would be necessary. In addition, Section 401 of the CWA requires State water quality certification or waiver of certification prior to issuance of a Section 404 permit.

Alaska Department of Transportation and Public Facilities (ADOT&PF) Permits: The ADOT&PF may require permits for any use or modifications of the McCarthy Road and/or its right-of-way (ROW). The NPS would acquire the necessary authorization from ADOT&PF for the project.

Photo 5: Concentration Mill



